The CHAIRMAN said there were some trees 50 or 60 years old at Sandy Bay perfectly healthy and bearing good crops.

MOUNT BISCHOFF.

Mr. STEPHENS referred to a paper read last session, written by Baron Von Groddeck, Germany, entitled, "Remarks on the tin ore deposits at Mount Bischoff," translated by Mr. G. Thureau, F.G.S. Specimens of the rock described in the paper not having been sent with the paper, Mr. Stephens stated he had received from Mr. C. P. Sprent specimens of the rock heretofore described as quartz porphyry or eurite, which he had sent to Professor Liversidge, who had kindly given him the following notes:—"I am sorry to say that I have no time just now to make analyses of them nor even sections for the microscope, and without doing both of these it is often very difficult to identify rocks, and not always then. The white rock from Mount Bischoff, which looks like a quartz porphyry, is undoubtedly a topaz rock as described by Baron V. Groddeck; the sp. gr. is far too high for a felspathic rock, and it is as rough to the touch as a trachyte, moreover it contains flourine, which is readily detected before the blowpipe. This association of topaz and tin is a very interesting one. I think topaz crystals ought to be found in the cavities of the rock. If you can set anyone to collect in the district probably interesting discoveries would be made."

NOTES AND EXHIBITS.

Mr. C. J. Atkins exhibited specimens mounted for the microscope, a fresh-water algæ (*Anacharis alsinastrum*), commonly called in England the water thyme. It is said to have been introduced in England from North America, and has since spread with such rapidity through the canals and rivers as in many instances seriously to impede their navigation. The specimens before the meeting were obtained from the pond in Franklin-square, where it appears to have taken a firm hold.

VOTES OF THANKS.

On the motion of Mr. JUSTIN BROWNE, seconded by Col. LEGGE, a vote of thanks was awarded to the various donors and the gentlemen who had furnished papers.

The meeting then terminated.

JUNE, 1886.

The monthly evening meeting of the society was held on Tuesday, June 8th; Mr. James Barnard (vice president) in the chair.

The following gentlemen were elected corresponding members:—Mr. Chas. Gould, F.G.S.; Prof. Alexander Agassiz, Curator Museum of Comparative Zoology at Harvard College, Cambridge, Mass.; Prof. Geo. W. Tryon, jun.; Conservator of Conchological Museum, Philadelphia.

List of additions to the library during the month of May:—

Annals and Magazines of Natural History, April.

Annual report of the Trustees American Museum of Natural History for the year 1885-6.—From the Trustees.

Athenæum, March.

Circulars of information of the Bureau of Education No. 1, 1884. Meeting of the International Congress at Rome in Oct., 1884, Nov. 2, 1884. The teaching, practice, and literature of shorthand by Julius

Ensign Rockwell, No. 3, 1885. A review of the reports of the British Royal Commissioners on technical instructions, with notes, by the late Chas. O. Thompson. No. 4, 1885, Education in Japan. No. 5, 1884, suggestions respecting the Educational exhibit at the World's Industrial and Cotton Centennial Exposition. No. 7, 1884, aims and methods of the teaching of Physics by Prof. Chas. K. Wead. Building for the Children in the south. Report of the Director of the American School of Classical Studies at Athens for the year 1882-3.—From the Department, Washington.

Descript ve Notes on Papuan Plants, VIII., by Baron F. Von Mueller, K.C.M.G.—From the author.

Geological Magazine, April. Imperial Federation, Vol. I., No. 4, April—From the Editor.

Journal of the Society of Arts, Mar. 5, 12, 19, 22; Journal of the Bombay Natural History Society, No. 2, Vol. I., April, 1886—From the Society.

Mon hly Notices of the Royal Astronomical Society, Vol. XLVI., No. 5—From the Society.

Mythical Monsters (Illustrated), 1886, by Chas. Gould, F.G.S.—From the Author.

Nature, Vol. XXXIII., March.

Proceedings of the Yorkshire Geological and Polytechnic Society, new series, Vol. IX., pt. 1, pp. 1-44, plates—From the Society.

Report of the Commission of Education for the year 1883-4—From the Dept.

Romaji Zasshi, a short statement of the aim and method of the Romaji Kai (Roman Alphabet Association of Japan)—From the Romanization Society Tokio, Japan.

Verhandlungen der Gesellschaft Für Erdkunde Zu Berlin, Band XIII., No. 3—From the Society.

PAPERS.

A short paper, entitled "The Occultation of Jupiter, 16th April 1886," by Mr. A. Biggs, was read, in the absence of the author, by the Secretary, Mr. A. Morton.

A paper, entitled "Natural Geometry," illustrated by diagrams, by Mr. A. Mault, was read. The author stated that his paper was intended to make the study of mathematical reasoning, and through it all other reasoning, more easy of apprehension, using visible, concrete demonstrations, instead of abstract ones. The system he (Mr. Mault) proposed is especially adapted to technical teaching, and for the use of elementary schools. It will be reasoning by sight, and reasoning helped by sight.

Mr. KINGSMILL asked leave, as a teacher of mathematics, to be allowed to make some observations in reference to the subject. He had heard the paper read with great interest, because he thought it indicated the true method of teaching mathematics to the young. Locke said, in his essay upon "The Human Understanding," that "a clear idea was the first part of reasoning," and the great advantage of the system illustrated by Mr. Mault was that it put the clear idea before the minds of the pupils. It showed in a very interesting way how experiments might be made in the geome ry of areas, and the volumes of solids. He might say that he had tried the same system himself, and many teachers of mathematics in England and on the continent were doing the same. He had been at some disadvantage in not being able to get the newest books on the subject, but he had made up a number of examples with a view to teaching in this way. Two examples made use of by Mr. Mault he considered to be of the greatest value, namely, obtaining the area of

the circle by multiplying half the circumference by the radius, and finding the volume of a pyramid by multiplying the base by a third of the height. There were a great many branches of geometry which could be illustrated experimentally, though the geometry of angles was what he had chiefly taught by this means. He had set a class of boys, about 20 in number, to draw triangles with a ruler. Naturally the triangles would be of all sorts of shapes and sizes, but having taught them the use of the ("protractor," he set them to measure the three angles and tell the number of degrees of them all. One boy would get it 179deg., and another 181deg., but all would be very near 180deg They soon came to the conclusion that the three angles of all triangles contained 180deg., or two right angles, and this was impressed upon their minds before commencing upon Euclid's demonstrations. He also set the boys four sided figures, and told them to measure all the angles, and they always approached 360deg., or four right angles, and their minds were thus led to the conclusion that the angles contained in all quadrilateral figures amounted to four right angles. He did the same with regard to five sides figures and polygans. He found that the boys took the greatest possible interest in the study thus afforded them, many boys who had had to confess that they could not see the object of Euclid's demonstrations admitting that they began to see something in it after all. His belief was that if a class of boys were kept at that sort of work for six months they would learn more of Euclid's elements in the ensuing six months than they would otherwise do in 12 months. He had used this system in teaching elementary trigonometry, and the results of the work he set his boys were surprisingly correct He had got a small class through the elements of this branch of mathematics with the greatest satisfaction both to himself and the boys. There was no royal road to geometry, but the experimental method was an advance on the old one, and the nearest approach that could be found.

Mr. E. C. Nowell expressed the great gratification he had received from hearing Mr. Mault's paper read, and hoped its effect would extend much further than the walls of the Royal Society's chamber. He hoped some practical steps would be taken by the council of the society to bring the subject under the notice of the State school teachers, and the Director of education, with a request that he would interest himself in introducing this system into the State schools. He was perfectly sure that the proper mode of teaching was to teach the concrete first and the abstract afterwards. An utterly wrong principle had been adopted in their educational system, as the abstract was first and the student left to find out the concrete himself. A great portion of the time supposed to be spent in education was just thrown away. There were very few people with brains so formed that they could grasp the abstract without the concrete. Although he had forgotten nearly all his geometry, it had taught him the best methods of reasoning, and showed him that one must be very careful of the groundwork. It was well known that things presented to the eye had a greater effect on the mind than those which were only presented to the imagination. He hoped, therefore, that this paper would have some practical effect, and that steps would be taken to bring it before the pointed attention of all those who were engaged in the State schools.

Mr. Bernard Shaw expressed his pleasure at having heard such an able paper read and thought Mr. Mault deserved their sincerest thanks.

On the suggestion of Mr. Morton it was decided that the paper should be published.

On the motion of Mr. KINGSMILL votes of thanks were accorded Messrs. Mault and Biggs for their papers.

The CHAIRMAN, in putting the resolution, regretted that Mr. Stephens, the Director of education, was not able to be present through pressure of work, but he had no doubt the paper, would receive full consideration in due course.

Mr. MAULT, in responding, said that he would spare no pains to forward the course of education in this respect. He understood that the Government had initiated some technical schools, under the direction of Mr. Charpentier, and he would be glad to present him with a set of models, which would illustrate the system he advocated in his paper.

The proceedings then terminated.

JULY, 1886.

The monthly meeting of the Royal Society was held on Tuesday evening, July 13. Mr. James Barnard in the chair.

The CHAIRMAN said he was sure they all deeply regretted the late sad railway accident that had taken place since the last meeting of the Society, one of the sufferers being their worthy hon. sec. (the Hon. J. W. Agnew); but he was pleased to learn that Dr. Agnew was in a fair way of recovery, and hoped that a few days would see him about again. (Applause.)

Messrs. W. Blanch Brain, F.S.S., G. S. Perrin (Conservator of Forests) were elected Fellows of the Society.

List of additions to the Library during the month of June :—

Agricultural Gazette.

Annals and magazines of Natural History, No. CI., May.

Appendix to the Statistics of New Zealand for the year 1884. A series of diagrams, showing the progress of the colony by increase of population, trade, live stock, cultivation, occupied holdings, etc.—From the Government.

Astronomical observations, 1882-5, Rousdon Observatory, Devon, made under the superintendence of C. E. Peck, M.A.—From the Society.

Athenæum, April.

Australian Mosses, enumerated by Mr. W. Mitten.—From Baron F. Von Mueller.

Bollètino della Societâ Geograpfica Italiana, serie II., vol. XI., April, 1886, Anno XX., Fasc. 4.—From the Society.

Bulletin de la Societa Imperiale des Naturalists de Moscow, Année 1885, Nos. 3 et 4.—From the Society.

Catalogue des Portraits de Voyageurs et de Géographes qui se trou vent dans les Albums de la Societe de Géographie a la date du 22 Novembre, 1885.—From the Society.

Fac similes of four old Charts of Australia.—From the Trustees Public Library, Melbourne.

Geological Magazine, May, 1886.

Imperial Federation, No. 5, Vol. 1, May 1886.—From the Editor.

Indian Meteorological Memoirs, Vol. III., Pt. 1, 1. The Rainfall of India, Vol. IV., Pt. 1.—From the Department.

Insects of the Fly River, New Guinea—"Coleoptera," by Wm. Macleay, F.L.S., etc.—From the Author.